2011 GOES-R Science Week

Risk Reduction Annual Meeting
21-23 September 2011
National Space Science and Technology Center
Room 4078
Huntsville, Alabama
Last Updated: 15 Sept 2011

Meeting Goal: Recognize the accomplishments of the GOES-R Risk Reduction Program participants over the past year and make recommendations for the coming year.

Conference Objectives:

1. Review the progress of GOES-R Risk Reduction continuing projects over the past year.

2. Present results/issues/science from the GOES-R Risk Reduction participants including: data fusion applications/techniques, proxy data and interactions with anticipated end-users.

3. Discuss/review/finalize objectives for all projects for the coming year.

4. Inform the GOES-R Program Office and the GOES-R Risk Reduction Technical Advisory Committee (TAC) on the status of the GOES-R Risk Reduction program.

Wednesday, 21 September:
Day 1: Welcome and Introductions, Science Presentations
Chairs: Ingrid Guch and Mark DeMaria

Note: All times are Central Time

12-1:30pm Registration

1:30pm Welcome Remarks/Logistics John Horack, UAH VP-Research
Dan Schumacher,
Director of NASA-MSFC Office of Science and Technology

1:40 pm Meeting Objectives and Agenda Mark DeMaria/Ingrid Guch

1:50 pm NWS Update Mike Johnson

2:10 pm Proving Ground Update Steve Goodman

2:30 pm AWG Update Jaime Daniels

2:50 pm JPSS Update Mitch Goldberg

3:10 pm Break

3:20 pm CIRA, Knaff, TC rapid intensity forecasting

3:40 pm CIMSS, Lazarra, High latitude winds

4:00 pm STAR, Lazslo, solar energy applications

4:20 pm UAH, Mecikalski, Improved convective initiation algorithm with GOES winds

4:40 pm CICS, Wang, GPM rainfall

5:00 pm Logistics for breakout sessions Ingrid Guch

5:05 pm TAC Meets

5:45 pm Reception at Burritt Museum on Monte Sano Mountain (burrittonthemountain.com)

Thursday, 22 September:
Day 2: Breakouts and Poster Sessions
Chairs: Ingrid Guch and Mark DeMaria

Note: All times are Central Time

7-8:30 am Registration and Poster Set up (location TBD)

8:30 am Welcome Ingrid Guch

8:35 am GPO Status Report Greg Mandt

8:55 am Breakouts: "Connecting GOES-R Capabilities to User Needs"
High-Impact Weather M. Johnson, DeMaria, D. Reynolds
Observations and Techniques Schrab, Boukabarra, Yoe

Applications, Testbeds and Training Motta, Gurka, Steve Weiss

10:30 am Break

10:45 am Cooperative Institute/CREST/STAR Directors Panel (CREST, CIFAR, ESSC, CIOSS, CICS, CIRA, CIMSS, STAR) 7-minute introduction for each (current and potential GOES-R research) followed by Q&A

12:00 pm Lunch and Presentation - NASA Short-term Prediction Research and Transition

1:30 pm Report from "High Impact Weather" Breakout Session

1:45 pm Report from "Observations and Techniques" Breakout Session

2:00 pm Report from "Applications, Testbeds and Training" Breakout Session

2:15 pm -3:07pm New start thematic areas relating to "High Impact Weather"

(each PI in the thematic area is asked to present 2 slides indicating what they plan for the new start (objectives and techniques) and, if applicable, 1 slide introducing any related scientific poster(s) with preliminary results. After each PI in the thematic area has presented the TAC will have the opportunity to ask questions of PIs to better understand the activities planned.)

2:15 pm Aviation (Webley, Pavolonis, Carey)

2:27 pm Lightning (Carey, Koshak, Kuhlman, McCaul)

2:43 pm Precipitation (Dong, Adler, Rabin)

2:55 pm Severe Weather and Tropical Cyclones (Petersen, Lindsey, Knaff)

3:07 pm Poster Session and Break Part I, "High Impact Weather" room 2096

3:45pm - 4:30 pm New Start thematic areas relating to "Observations and Techniques"

(each PI in the thematic area are asked to present 2 slides indicating what they plan for the new start (objectives and techniques) and, if applicable, 1 slide introducing any related scientific poster(s) with preliminary results. After each PI has presented the TAC will have the opportunity to ask questions of PIs in the thematic area to better understand the activities planned.)

3:45 pm Imagery (Gladkova) and Infrastructure/McIdas-X (Achtor)

3:53 pm Land Properties (Kongoli), Ocean (Strub) and Clouds (Mahani, Maturi)

4:09 pm Data Assimilation: CRTM (Weng), ABI (Zupanski), JCSDA FFO project (Navon-Fuelberg), GLM, (Fierro, MacGorman), AMVs (Daniels), ABI (Jun Li), Warn on Forecast (Thomas Jones), Radar Fusion (Ming Xie)

4:41 pm Cal/Val (Gunshor)

4:45 pm Poster Session and Break Part II, "Observations and Techniques"

5:30 pm TAC meets

Dinner on your own

Friday, 23 September:
Day 3: Poster Session and TAC Discussions
Chairs: Steve Goodman and Jim Gurka

(each PI in the thematic area are asked to present 2 slides indicating what they plan for the new start (objectives and techniques) and, if applicable, 1 slide introducing any related scientific poster(s) with preliminary results. After each PI has presented the TAC will have the opportunity to ask questions of PIs in the thematic area to better understand the activities planned.)

Note: All times are Central Time

7-8:30 am Registration and Poster Setup

8:30am – 9:40am New Start thematic areas relating to "Applications, Testbeds and Training"

8:30am Agriculture and Health (Hain, Tian)

8:40am Air Quality (Zhang, Kondragunta)

8:50am Space Weather (Denig)

9:05am Proxy Radiance Data (Xue)

9:10am Training (Ackerman, Connell)

9:20am Poster Session and Break Part III, "Applications, Testbeds and Training"

10:05am-11:30am Wrap-up

10:05am TAC meets; Posters taken down

10:35am TAC recommendations/findings and discussion

11:30am R3 Meeting adjourns

Appendix: Project Names for Thematic Area Sessions

Project Names for "High Impact Weather" Presentations

2:15 pm **Aviation**

Webley, pwebley@gi.alaska.edu, Validation of GOES-R Volcanic Ash Products: Near Real-Time Operational
Decision Support/Hazard Analysis

Pavolonis, Mike.Pavolonis@noaa.gov, Development of a GOES-¬R Automated Volcanic Cloud Alert System

Carey, larry.carey@nsstc.uah.edu, Integrated GOES-R GLM/ABI approaches for the detection and forecasting of
convectively induced turbulence

2:27 pm **Lightning**

Carey, larry.carey@nsstc.uah.edu, The GOES-R GLM Lightning Jump Algorithm: Research to Operational Algorithm

Koshak, william.koshak@nasa.gov, The GLM Ground Flash Fraction Retrieval Algorithm: Improvement, Testing,
and Demonstration

Kuhlman, Kristin.Kuhlman@noaa.gov, Storm Tracking and Lightning Cell Clustering using Geostationary Lightning
Mapping Data for Data Assimilation and Forecast Applications

McCaul, bill.mccaul@msfc.nasa.gov, The WRF Lightning Forecast Algorithm for GLM: Refinement and
Incorporation into Convection-allowing Ensemble Forecasts

2:43 pm **Precipitation**

Dong, dong@aero.und.edu , Improving GOES-R Cloud and Precipitation Products Associated with Deep Convective Systems
by using NEXRAD Radar Network over the Continental U.S

Adler, radler@umd.edu, Combining GLM and ABI Data for Enhanced GOES-R Rainfall Estimates

Rabin, rabin@ssec.wisc.edu, Improvements to QPE using GOES visible ABI and model data

2:55 pm **Severe Weather and Tropical Cyclones**

Petersen, Ralph.Petersen@ssec.wisc.edu, Improving GOES-R Temperature/Moisture Retrievals and Derived Products and
NearCasts using Hyper-spectral POES Soundings

Lindsey, Dan.Lindsey@noaa.gov, Convective Storm Forecasting 1-6 Hours Prior to Initiation

Knaff, John.Knaff@noaa.gov, Improved Understanding and Diagnosis of Tropical Cyclone Structure and Structure Changes

Project Names for "Observations and Techniques" presentations

3:45 pm **Imagery**
Gladkova, gladkova@cs.ccny.cuny.edu,, Quantitative Image Restoration

Infrastructure/McIdas-X
Achtor, Tom.Achtor@ssec.wisc.edu, McIDAS-V Support for GOES-R Risk Reduction Projects

3:53 pm **Land Properties**
Kongoli, Cezar.Kongoli@noaa.gov, Application of the GOES-R Land Surface Temperature Product for Snowmelt Mapping

Ocean
Strub, tstrub@coas.oregonstate.edu, Ocean Surface Currents from SST: Derived Motion and Model Data Assimilation

Clouds
Mahani, mahani@ccny.cuny.edu, Cloud-top Relief Spatial Displacement Adjustments for GOES-R Images

Maturi, eileen.maturi@noaa.gov, Development of a Bayesian Cloud Mask for All GOES-R Applications

4:09 pm **Data Assimilation**

Weng/CRTM, fuzhong.weng@noaa.gov, Toward Operational Uses of Geostationary Imager Radiance Data in the GSI analysis system

Zupanski/ABI, ZupanskiM@cira.colostate.edu, Utility of GOES-R Geostationary Lightning Mapper (GLM) Using Hybrid
Variational-Ensemble Data Assimilation in Regional Applications

Navon/Fuelberg, inavon@fsu.edu, , hfuelberg@fsu.edu , JCSDA FFO Project

Fierro, MacGorman, Donald.Macgorman@noaa.gov, JCSDA FFO, Techniques for Assimilating Geostationary Lightning
Mapper Data and Assessment of the Resulting Impact on Forecasts

Daniels/AMVs, Jaime.Daniels@noaa.gov, Developing Assimilation Techniques for Atmospheric Motion Vectors Derived via a
New Nested Tracking Algorithm Derived for the GOES-R Advanced Baseline Imager (ABI)

Jun Li/ABI, Jun.Li@ssec.wisc.edu, The Utility of GOES-R and LEO Soundings for Hurricane Data Assimilation
and Forecasting

Thomas Jones, thomas.jones@noaa.gov, Warn on Forecast

Ming Xie, Radar Fusion

4:41 pm **Cal/Val**

Gunshor, matg@ssec.wisc.edu, Investigating the Effects of Detector-Averaged SRFs

Project Names for "Applications, Testbeds and Training" presentations

8:30 am **Agriculture and Health**
Hain, Chris.Hain@noaa.gov, Evapotranspiration and Drought Monitoring Using GOES-R Products for NIDIS

Tian, Yuhong.Tian@noaa.gov, Improving monitoring of tropical forests and their characterizations in NCEP models using
GOES-R ABI land products data

8:40 am **Air Quality**
Zhang, hazhang@umbc.edu, GOES-R air quality data distribution system

Kondragunta, Shobha.Kondragunta@noaa.gov, Assimilation of GOES-R ABI Aerosol Optical Depth (AOD) in a
Regional Air Quality Model to Improve Surface PM2.5 Forecasts

8:50 am **Space Weather**
Denig, william.denig@noaa.gov

9:05 am **Proxy Radiance Data**

Xue, mxue@ou.edu, Ensemble Simulation of GOES-R Proxy Radiance Data from CONUS Storm-Scale Ensemble Forecasts,

Product Demonstration and Assessment at the Hazardous Weather Testbed GOES-R Proving Ground

9:10 am **Training**

Ackerman, steve.a@ssec.wisc.edu, Satellite Meteorology Resources and a GOES-R Education Proving Ground

Connell, connell@cira.colostate.edu, National and International Training Development, Delivery, and Distribution